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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,617

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Katsunori Mineno

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EXAMINER

LIU, HENRY Y

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MAIL DATE

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02/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,617	Applicant(s) MINENO ET AL.	
	Examiner HENRY LIU	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

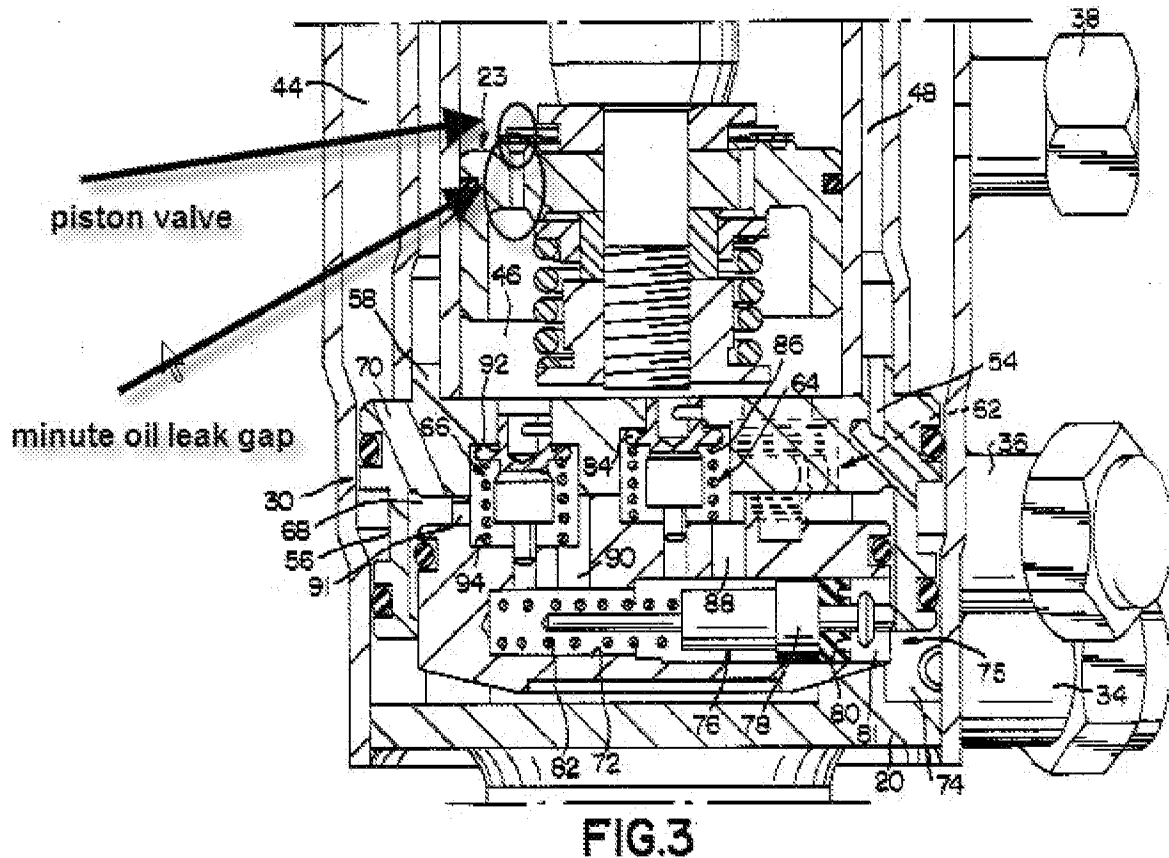
- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Applicant's arguments filed on 01/05/2009 with respect to claims 1-3 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show a "minute oil leak gap" between the sliding surfaces of the alleged plunger and the alleged sleeve such that hydraulic oil can flow from said pressure chamber into said reservoir chamber via said minute oil leak gap, must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art, is not persuasive.

DOMENICHINI teaches a minute oil leak gap (See figure below). The oil leak gap allows oil to flow from said pressure chamber into said reservoir chamber via said minute oil leak gap in the instance where the piston (24) is rapidly extended from the shock body and then suddenly stopping the extension leaving the valve open for a short period of time. Stiction from the piston O-ring will prevent the piston valve from closing immediately. During this time oil can flow from the pressure chamber to the reservoir chamber via said minute oil leak gap.



In response to applicant's argument that the references fail to show a "the return chamber is defined under the sleeve so as to communicate with said reservoir chamber," must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art, is not persuasive.

DOMENICHINI teaches an annular duct (48) between itself and the inner tube (16). An upper chamber (50), defined inside the cylinder (16) between the

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piston (23) and the annular cylinder head (28), communicates at the top with annular duct (48) by way of an elbow passage (52) in the form of holes bored in the cylinder head (28) (Col. 3 lines 63-69) (Fig. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being anticipated by DOMENICHINI (4,752,062) in view of CHAN (2002/0171223).

Regarding Claim 1, DOMENICHINI teaches “an auto-tensioner for engine accessories” as vehicle hydraulic shock absorbers. The reference anticipates the current application because it contains all the structural components and is

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capable of performing the same functions of the claimed auto tensioner disclosed in the current application (MPEP 2114). DOMENICHINI teaches "a cylinder having an open top end" as a middle tube (14) (Col. 3, lines 13-18, Fig. 2) inside the shock absorber (10) (Col. 3, lines 13-18, Fig. 2). The open end is displayed in Fig. 2. DOMENICHINI teaches "a sleeve having a bottom and inserted in said cylinder" as an inner tube (16) inside the shock absorber (10). DOMENICHINI teaches a "seal member mounted to said cylinder at said open top end to prevent leakage of hydraulic oil in said cylinder" as a piston (23) (Col. 3 lines 25-35, Fig. 2) fixed to a rod (24) (Col. 3 lines 25-35, Fig. 2) which extends in a sealed manner through the upper cylinder head. Hydraulic oil is in the shock absorber (Col. 4 lines 67-68, Fig. 2). Since the piston is sealed within the outer tube, the hydraulic oil is prevented from leaking. DOMENICHINI teaches "in said cylinder, a rod slidably extending through said seal member, a plunger connected to a bottom end of said rod so as to be slidable in said sleeve" as a piston (23) fixed to a rod (24) which extends in a sealed manner through the upper cylinder head (18) (Col. 3 lines 25-35, Fig. 2) which slides within the cylinder (16) (Col. 3 lines 25-35, Fig. 2). The piston (23) corresponds with the plunger in the current application. DOMENICHINI teaches a "plunger defining a reservoir chamber and a pressure chamber in said cylinder over and under said plunger, respectively" as an upper chamber (50) (Col. 3 lines 53-67, Fig. 2) and a lower chamber (46) (Col. 3 lines 53-67, Fig. 2). The pressure chamber corresponds to the lower chamber (32) (Col. 3 lines 53-67, Fig. 2) since it is below the piston (23). The reservoir chamber corresponds to the upper chamber (50) since it is above the

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piston (23). The piston (23) corresponds with the plunger and thus defines the reservoir and pressure chambers in the current application. DOMENICHINI teaches "and having a passage through which said pressure chamber communicates with said reservoir chamber" and "a check valve provided at said passage to close said passage when a pressure in said pressure chamber exceeds a pressure in said reservoir chamber " as a valve containing piston (23) which, during extension, the oil is made to pass from the upper chamber (46) by way of the members for regulating braking of the valve containing piston (23) (Col. 5 lines 8-11, Fig. 2, Fig. 3, Fig. 4). During compression, the hydraulic oil in the shock absorber is made to pass through the main compression valve and conveyed to the compensation chamber through the communication ducts (88) (Fig. 3, Fig. 4), (90) (Fig. 3, Fig. 4), the lateral passage (91) (Fig. 3, Fig. 4), the annular space (68) (Fig. 3, Fig. 4) and the passage (70) (Fig. 3, Fig. 4), thus the hydraulic oil does not pass through the valve containing piston (23), during compression (Col. 4 lines 67-68, Col. 5 lines 1-4, Fig. 2, Fig. 3, Fig. 4).

DOMENICHINI does not teach "a return spring mounted around said cylinder to bias said rod outwardly of said cylinder"

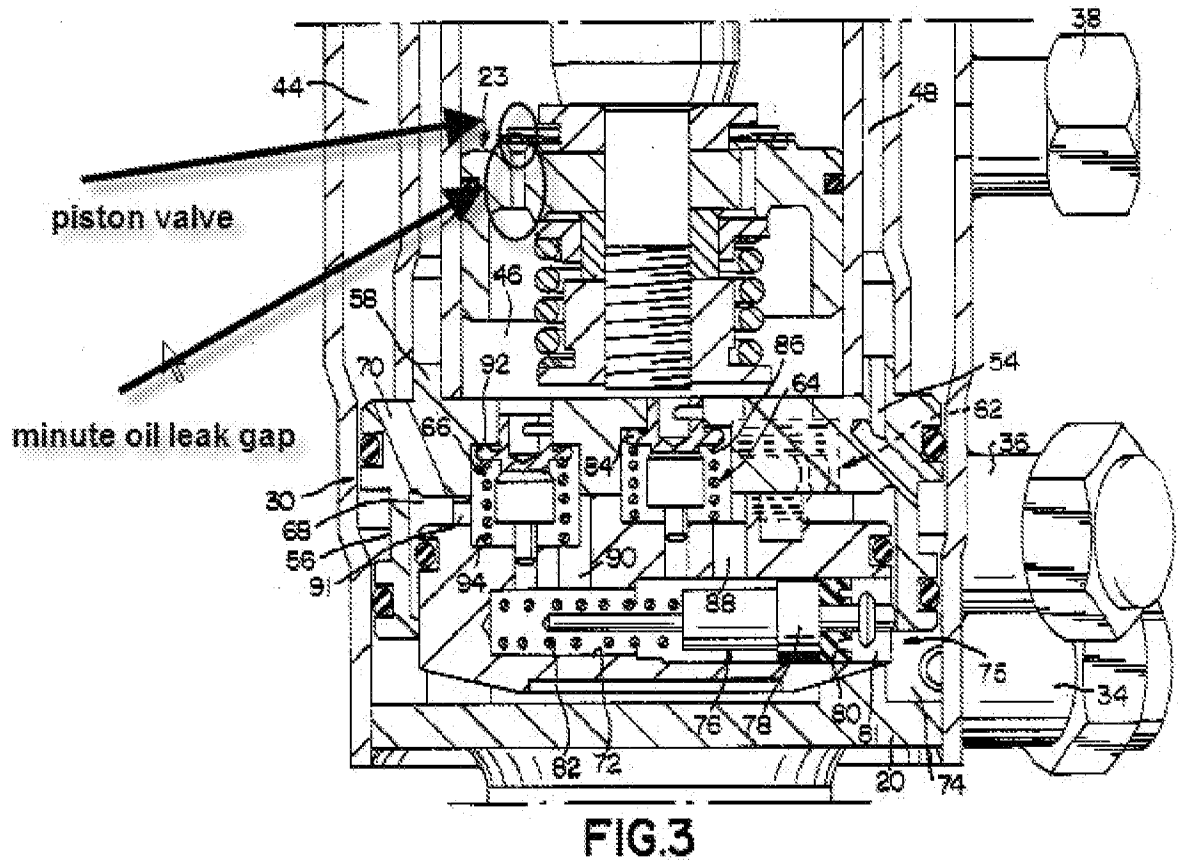
CHAN teaches a spring (40) around the shock absorber (Fig. 1, Fig. 2, Fig. 3, Fig. 4).

It is obvious to one of ordinary skill in the art at the time the invention was made to combine the shock absorbers in DOMENICHINI with the spring in CHAN because it is well known in the art that shock absorbers for an automotive suspension use springs on the outside of the outer tube. There is motivation to

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combine since the spring is required for the automobile's suspension to work at all when dampers such as the one in DOMENICHINI are used. The combination results in predictable results since the spring mounted around the cylinder is the most common embodiment when using a shock absorber in an automobile suspension.

DOMENICHINI teaches "wherein a minute oil leak gap is formed between sliding surfaces of said sleeve and said plunger such that hydraulic oil can flow from said pressure chamber into said reservoir chamber via said minute oil leak gap" The oil leak gap allows oil to flow from said pressure chamber into said reservoir chamber via said minute oil leak gap in the instance where the piston (24) is rapidly extended from the shock body and then suddenly stopping the extension leaving the valve open for a short period of time. Stiction from the piston O-ring will prevent the piston valve from closing immediately. During this time oil can flow from the pressure chamber to the reservoir chamber via said minute oil leak gap. See figure below.



DOMENICHINI teaches “a return chamber is defined under said sleeve so as to communicate with said reservoir chamber” as an annular space (68) defined between the two parts (58) (Fig. 3, Fig. 4) and (60) (Fig. 3, Fig. 4) of the valve-containing body and communicates with the interspace or compensation chamber (44) through a passage (70) (Fig. 3, Fig. 4). The valve (62) (Fig. 3, Fig. 4), shown in broken lines since it is not located in the sectional plane of Fig. 3, is an automatic compensation valve which opens so that the compensation

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chamber (44) communicates with the lower chamber (46), in a known manner, during extension of shock absorber (Col. 4 lines 14-23, Fig. 2, Fig. 3, Fig. 4).

The DOMENICHINI teaches “bottom of said sleeve being formed with a valve hole” as an auxiliary compression valve (66) (Fig. 3). The valve necessarily has a valve hole when the valve opens. It can be seen in Fig. 3. DOMENICHINI teaches “through which said return chamber communicates with said pressure chamber” as downstream of the disk (84), a communication duct (91) serves to establish a communication between the lower chamber (46) and the annular space (68) and compensation chamber (44) when the valve (66) is open (Col. 4 lines 58-68, Fig. 2, Fig. 3). The communication duct (91) and annular space (68) can be interpreted as the return chamber. DOMENICHINI teaches “comprising a relief valve provided at said valve hole to open said valve hole if the pressure in said pressure chamber exceeds a set pressure” as an auxiliary compression valve (66) designed to open during contraction of the shock absorber. The valve (66) includes an obturator disk (92) biased by a rigid spring (94). The auxiliary compression valve (66) opens to prevent total blockage of the shock absorber. In practice, the shock absorber passes from a state where it is softer to a state where it is more rigid and hence its damping force during compression when rolling occurs is greater than that during compression when jerking occurs (Col. 5 lines 46-58).

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Regarding Claim 2, DOMENICHINI teaches “wherein said return chamber communicates with said reservoir chamber through at least one axial groove formed in a surface between said sleeve and said cylinder,” DOMENICHINI teaches an annular duct (48) between itself and the inner tube (16). An upper chamber (50), defined inside the cylinder (16) between the piston (23) and the annular cylinder head (28), communicates at the top with annular duct (48) by way of an elbow passage (52) in the form of holes bored in the cylinder head (28) (Col. 3 lines 63-69) (Fig. 2). The annular duct corresponds to axial groove.

Regarding Claim 3, DOMENICHINI does not teach “wherein the surface in which said at least one axial groove is formed is an outer peripheral surface of said sleeve.” DOMENICHINI teaches an annular duct (48) between itself and the inner tube (16). An upper chamber (50), defined inside the cylinder (16) between the piston (23) and the annular cylinder head (28), communicates at the top with annular duct (48) by way of an elbow passage (52) in the form of holes bored in the cylinder head (28) (Col. 3 lines 63-69) (Fig. 2).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**.

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See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY LIU whose telephone number is (571) 270-7018. The examiner can normally be reached on Mon-Thurs 7:30am - 5:00pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT SICONOLFI can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HENRY LIU/
Examiner, Art Unit 3657

/Robert A. Siconolfi/
Supervisory Patent Examiner, Art
Unit 3657